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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,047	12/10/2003	Hyuk Tark Kwon	AD7076 USNA	8995
23906 7590 12/12/2007 E I DU PONT DE NEMOURS AND COMPANY LEGAL PATENT RECORDS CENTER BARLEY MILL PLAZA 25/1128 4417 LANCASTER PIKE WILMINGTON, DE 19805			EXAMINER WOLLSCHLAGER, JEFFREY MICHAEL	
			ART UNIT 1791	PAPER NUMBER
			NOTIFICATION DATE 12/12/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTO-Legal.PRC@usa.dupont.com

Office Action Summary	Application No. 10/734,047	Applicant(s) KWON, HYUK TARK	
	Examiner Jeff Wollschlager	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,10-12,29,31-35,37 and 40-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,10-12,29,31-35,37 and 40-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

Applicant's amendment to the claims filed October 1, 2007 has been entered. Claims 1, 10, 11, 31, 32, 37, 40 and 41 are currently amended. Claims 2, 4-9, 13-28, 36, 38, 39 and 47-54 have been canceled. Claims 1, 3, 10-12, 29, 31-35, 37 and 40-46 are pending and under examination.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 10-12, 29, 31, 32, 37 and 42-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Domine et al. (US 2004/0161623) in view of Suzuki et al. (US 4,079,850) and either of Rainwater et al. (US 3,233,416) or Chesser (US 3,450,805).

Regarding claims 1 and 3 Domine et al. teach ionomer laminates and articles formed from ionomer laminates (Abstract; Figure 1). Domine et al. disclose the laminates may be formed by blow molding methods (paragraph [0007]; Figure 8) into containers (paragraphs [0097, 0124, 0136]). Domine et al. also disclose the thickness of the ionomer outer layer may be up to 6000 um/6 mm (paragraph [0036]). Domine et al. also disclose a blow mold temperature as low as 10 °C [paragraph [0104]]. A wide variety of ionomers are disclosed including ethylene methacrylic acid copolymer ionomers (paragraph [0037]). Domine et al. disclose materials such as polypropylene, polyethylene and polycarbonates can form the layer

behind the ionomer layer (paragraph [0052]). Domine et al. do not provide details of the blow molding method (paragraph [0097]).

However, Suzuki et al., teach a method for manufacturing a multilayer container comprising: heating each of at least two thermoplastic polymers to a temperature above the melt temperature of each to obtain a homogeneous melt of each of the at least two polymers; co-extruding the at least two thermoplastic polymers through a co-extrusion blow molding head into an open mold; using the extrusion blow molding machine to blow mold the at least two thermoplastic materials to form a blow molded structure having an internal surface and an external surface; a mold having a pinch off area and dual pinching means for pinching the outer layer in a manner such that the outer layer forces the at least one other layer out of the pinch off area (Abstract; Figures 2-A and 2-B; col. 1, lines 64-col. 2, line 3; col. 2, lines 10-30 and 50-67; col. 4, lines 2-19 and 49-67). Suzuki et al. also disclose a mold temperature of 12 °C (col. 10, lines 15-18)

Furthermore, each of Rainwater et al. (col. 1, lines 8-46; col. 2, lines 14-18 and lines 66-70; col. 3, lines 37-42) and Chesser (Abstract; col. 1, lines 31-63; col. 2, lines 1-44; col. 3, lines 26-30 and 60-74) teach a method of blow molding articles where cold air is employed to blow the article while simultaneously providing a means of cooling the blow molded structure.

Rainwater et al. employ blowing air at a temperature of about 20 °F (col. 3, lines 41-43).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have combined the blow molding teachings of Suzuki et al. and either of Rainwater et al. or Chesser to have produced the blow molded article taught by Domine et al. since Suzuki et al. disclose their method assists with fusion bonding of the pinched off portions (col. 2, lines 10-20) and Rainwater et al. disclose that cold air reduces

scrap caused by condensation on the wall of the mold (col. 3, lines 1-3) and promotes rapid cooling of the article (col. 1, lines 8-21).

As to claims 10 and 11, Domine et al. disclose employment of an ionomer (paragraph [0057]).

As to claim 12, Suzuki et al. disclose the claimed pinched shape (Figure 2B).

As to claim 29, the examiner notes that unpolished mold, for example, are conventional in the art and that molds disclosed intrinsically have some degree of surface imperfections. Furthermore, it is well known in the art to provide a mold with a roughened surface in applications where a textured external article is desired.

As to claim 31, Rainwater allow for the blowing and cooling gas to escape from the inside of the mold (col. 2, lines 14-19; col. 4, lines 66-75).

As to claim 32, Rainwater et al. (Figure 3) and Chesser (Figure 2) employ a blow-pin/nozzle for discharging the cold gas into the inner cavity of the parison. The examiner notes that such a claimed configuration is well known in the art and that many equivalent alternative means of injecting blow gas into a parison are conventionally employed.

As to claims 37, Domine et al. (paragraph [0052]) and Suzuki et al. (col. 3, lines 26-47; col. 4, lines 48-66; col. 5, lines 1-51) disclose a variety of inner layers meeting the claim limitations.

As to claim 42, Domine et al. disclose an ionomer as the outer layer (Figure 1; Abstract; paragraph [0037]).

As to claims 43 and 44, Domine et al disclose an ionomer layer thickness range of 25 um to 6000 um depending on the application (paragraph [0036]).

As to claims 45 and 46, Rainwater et al. (col. 1, lines 8-46; col. 2, lines 14-18 and 66-70; col. 3, lines 37-42) and Chesser (Abstract; col. 1, lines 31-63; col. 2, lines 1-44; col. 3 lines 26-30 and 60-74) disclose cold air as the gas.

Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Domine et al. (US 2004/0161623) in view of Suzuki et al. (US 4,079,850) and either of Rainwater et al. (US 3,233,416) or Chesser (US 3,450,805), as applied to claims 1, 3, 10-12, 29, 31, 32, 37 and 42-46 above, and further in view of Sugawara et al. (6,303,071).

As to claim 29, the combination teaches the method of claim 29 as set forth above. In an alternative interpretation of the claim, Domine et al. do not expressly teach an active step of roughening the surface of the mold. However, Sugawara et al. teach an analogous method where they emboss/roughen the surface of the mold in order to produce a desired surface feature on the molded surface (col. 2, lines 53-59 and col. 8, lines 61-67).

Therefore, it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to modify the method of Domine et al. with the embossed/roughened mold surface taught by Sugawara et al. for the purpose of producing a desired surface feature on the molded structure.

Claims 33-35, 40 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Domine et al. (US 2004/0161623) in view of Suzuki et al. (US 4,079,850) and either of Rainwater et al. (US 3,233,416) or Chesser (US 3,450,805), as applied to claims 1, 3, 10-12, 29, 31, 32, 37 and 42-46 above and further in view of Wechsler (US 3,114,596).

As to claims 33-35, 40 and 41 the combination teaches the method as set forth above. Domine et al. do not disclose the claimed blow pin structures. However, Wechsler discloses water-jacketed blow pins and blow pins having apertures/skirts/channels (col. 1, lines 20-29 and 32-42; col. 2, lines 3-8). Furthermore, the apertures employed by Wechsler are reasonably understood to provide a rough surface. Still more, the examiner notes that the claimed structural limitations of the blow pin are known in the art and do not appear to effect the process in a manipulative sense.

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have employed the blow pins disclosed by Wechsler while practicing the method of Domine et al. for the purpose, as taught by Wechsler, of further improving cycle and product appearance (col. 1, lines 17-30).

Response to Arguments

Applicant's arguments filed October 1, 2007 in response to the rejection over Katsuya et al. and secondary references have been considered and they are persuasive in view of the amendment to the claims. Applicant's arguments regarding the rejection over Domine et al. in view secondary references has been considered, but is not persuasive.

Applicant argues that Suzuki fails to teach or suggest the additional cooling means and neither of Rainwater nor Chesser teaches the multilayer structure recited in claim 1. This argument is not persuasive. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Additionally, applicant argues that Domine teaches a multilayer laminate comprising an ionomer layer, a tie layer and a substrate of a polymer and discloses a blow molded container having an exterior ionomer layer, a pigmented ionomer intermediate layer and a backing layer and accordingly does not teach the claimed outer and inner layer as recited in claim 1. This argument is not persuasive, because the teachings of Domine et al. are broader than that which has been set forth in the arguments. The examiner notes the following within Domine et al.:

Figure 1: a 2-layer laminate.

Paragraph [0052]: the tie layer or the backing layer may be a polyolefin material.

Paragraph [0080]: A 2-layer laminate comprising a tie layer and an ionomer layer may be formed by co-extrusion.

Paragraph [0093]: The laminates may be shaped by blow molding (which include the 2-layer laminates).

Paragraph [0097]: Various blow molding techniques may be employed to form a fluid container.

Accordingly, the teaching of Domine et al. is not limited to the blow molding embodiment shown in Figure 8.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Wollschlager whose telephone number is 571-272-8937. The examiner can normally be reached on Monday - Thursday 7:00 - 4:45, alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on 571-272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JU

Jeff Wollschlager
Examiner
Art Unit 1791

af
CHRISTINA JOHNSON
SUPERVISORY PATENT EXAMINER

December 4, 2007